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The Evolution and Impact of Virtual/Neo Banks: Pioneering the Future of Banking

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Abstract:

Virtual banks, an innovative breed of financial institutions operating without physical branches, have revolutionized the banking landscape worldwide. This article delves into the inception, modus operandi, regulatory frameworks, and challenges surrounding these digital entities.

Introduction:

The emergence of virtual banks marks a paradigm shift in the traditional banking model. These institutions, devoid of brick-and-mortar establishments, leverage digital platforms to provide financial services efficiently. The journey of virtual banking finds its roots in the convergence of technological advancements, changing consumer behaviors, and a global push for digitization in financial services.

Neo banks, also known as digital banks or totally virtual online banks, have given a fresh facelift to the traditional banking structure. These entities, marked by their agile nature and cloud-based platform, are primarily designed to cater to the fast-paced world where mobility and convenience are paramount. These banks, queuing on the digital forefront, provide a unique blend of innovation and user-friendliness, which have surfaced as preferred banking alternatives (Stoughton & Zechner, 2007).

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Origin and Global Evolution:

The inception of virtual banking can be traced back to the late 20th century, with pioneers like Security First Network Bank in the United States (1995) and First Direct in the United Kingdom (1989) laying the groundwork. These entities began offering online banking services, introducing customers to the concept of conducting financial transactions through the internet.

Fast forward to the 21st century, and the proliferation of smartphones, high-speed internet, and enhanced cybersecurity protocols catalyzed the exponential growth of virtual banks. Countries like Singapore, Hong Kong, and China embraced the trend, fostering an environment conducive to virtual banking innovation. Notably, the Monetary Authority of Singapore issued licenses to digital-only banks, stimulating competition and innovation in the sector.

Examples of successful virtual banks globally include Ally Bank (USA), N26 (Europe), WeBank (China), and KakaoBank (South Korea), each catering to specific market segments with tailored digital solutions.

Operational Mechanism:

At the core of their operations, neo banks are providers of digital financial services. The primary objective remains ensuring seamless online transactions at reduced costs and innovative financial solutions. They operate without a traditional brick-and-mortar structure and leverage technologies like AI, robotic process automation, machine learning, and blockchain (Fernandes, Ferreira & Raposo, 2013).

Virtual banks operate solely through digital channels, offering a wide array of services such as account opening, payments, loans, and investment products through mobile apps or web interfaces. Leveraging

artificial intelligence, machine learning, and data analytics, these banks personalize customer experiences, streamline operations, and mitigate risks through robust cybersecurity measures.

When discussing banking models, terms like virtual banks, digital banks, and various other descriptors often overlap, but they can also encompass slightly different approaches to banking. Here are some aspects and distinctions among these models:

Virtual Banks:

- **Operational Structure:** Virtual banks operate entirely online, without physical branches. They offer a full suite of banking services through digital platforms.
- **Customer Interaction:** Transactions, account openings, loan applications, and customer support are conducted online or via mobile apps.
- **Examples:** Purely virtual banks include N26, WeBank, and Chime, among others.

Digital Banks:

- **Digital Transformation:** Digital banks leverage technology to streamline processes and enhance customer experience but may or may not operate without physical branches.
- **Hybrid Models:** Some digital banks have a combination of online services and physical branches for certain functions.
- **Examples:** Banks like Ally Bank and Simple often fall into this category, providing robust digital services but might have limited physical locations or partnerships for select services.

Online Banking:

- Broad Term: Online banking refers to banking services accessible via the internet, covering both virtual banks and digital services offered by traditional banks.

- Existing Banks: Traditional banks also provide online banking services, allowing customers to perform transactions digitally without being fully virtual or digital entities.

Neobanks or Challenger Banks:

- Innovation Focus: These banks, whether virtual or digital, emphasize innovation, user-centric design, and often target niche markets.

- Disruption: They challenge traditional banking models by offering unique features, often focusing on superior user experiences, lower fees, or specialized services.

- Examples: Monzo, Revolut, and Varo Money are considered neobanks or challengers.

Aspects of Virtual/Digital Banking Business:

Technology-Driven Operations:

- Emphasis on advanced technology like AI, machine learning, and data analytics for personalized services and operational efficiency.

Customer Experience:

- Prioritizing user-friendly interfaces, 24/7 accessibility, and quick, hassle-free transactions to enhance customer satisfaction.

Regulatory Compliance:

- Meeting stringent regulatory standards in each market, which can vary significantly and demand robust security and compliance measures.

Capital Investment:

- Requiring substantial initial investments for technology infrastructure, security, and compliance.

Marketing and Customer Acquisition:

- Relying on digital marketing, innovative promotions, and unique value propositions to attract and retain customers without physical branches.

Partnerships and Ecosystems:

- Collaborating with fintechs or other companies to expand services or create ecosystems that offer more comprehensive solutions to customers.

Understanding the nuances among these terms helps in appreciating the various approaches and focuses within the realm of modern banking.

Here's a comparative table outlining the distinctions among virtual banks, digital banks, and traditional banks across various aspects:

Aspects	Virtual Banks	Digital Banks	Traditional Banks
Operational Structure	Operate exclusively online	Mix of online and physical branches	Operate through physical branches
Customer Interaction	Entirely digital	Mostly digital, with in-person options	In-person and online interactions
Innovation & Tech	Emphasis on cutting-edge tech	Utilize tech, may not be as tech-centric	Employ tech with varying emphasis

Aspects	Virtual Banks	Digital Banks	Traditional Banks
Customer Experience	Focus on seamless digital experience	Aim for improved digital experience	Blend of in-person and digital exp.
Regulatory Compliance	Stricter due to lack of physical presence	Similar regulations but with exceptions	Adhere to established regulations
Capital Investment	Higher initial tech-focused investment	Lower initial tech investments	Maintenance of physical infrastructure
Market Strategy	Target specific niches with innovation	Balance traditional and modern banking	Adapt by incorporating digital services

This table helps visualize the distinctive features and approaches of each banking model, showcasing how they cater to different preferences and market segments within the financial industry.

Understanding these differences helps in evaluating the strengths and limitations of each banking model, catering to diverse customer preferences and needs in the evolving financial landscape.

Regulatory Landscape:

The regulatory landscape for neo banks is still being shaped, which differs vastly from the strict regulatory environment traditional banks operate in. Neo banks are required to gain a license to operate legally, and their operations, including transactions, interest rates, customer relations, are scrutinized by regulatory bodies such as the prudential regulatory authority and financial conduct authority (FCA)(Bátiz-Lazo, & Wood, 2002).

Regulatory bodies across developed economies have grappled with adapting frameworks to accommodate virtual banks while ensuring consumer protection, financial stability, and fair competition. Countries

like the UK and Singapore have introduced specific licenses for digital-only banks, imposing stringent requirements concerning capitalization, risk management, and operational resilience.

The regulatory landscape surrounding virtual banks varies significantly across different regions, reflecting diverse approaches to fostering innovation while safeguarding financial stability and consumer protection. Here's a more detailed exploration:

Asia-Pacific Region:

Hong Kong

- The Hong Kong Monetary Authority (HKMA) introduced a new banking regime in 2019, issuing licenses specifically for virtual banks. These licenses set strict criteria for capital, cybersecurity, and operational readiness.

- Virtual banks like ZA Bank and WeLab obtained these licenses and operate solely through digital platforms.

Singapore

- The Monetary Authority of Singapore (MAS) introduced the Digital Banking License framework in 2020, allowing for the issuance of two types of licenses: full digital bank licenses and wholesale digital bank licenses.

- These licenses impose stringent capital requirements and governance standards, promoting competition and innovation while ensuring financial stability.

China

- China witnessed the emergence of virtual banks like WeBank and MYbank, which operate under regulatory frameworks that encourage innovation in financial services.

- These banks often collaborate with established tech companies and operate within guidelines set by regulatory bodies like the China Banking and Insurance Regulatory Commission (CBIRC).

Europe:

United Kingdom

- The UK's Financial Conduct Authority (FCA) has facilitated the rise of challenger banks by providing regulatory support and sandbox environments for testing innovative financial services.

- Institutions like Monzo, Starling Bank, and Revolut have thrived under this environment, focusing on user-centric digital experiences.

European Union

- The EU operates under a unified regulatory framework, allowing digital banks to obtain licenses from respective national authorities while adhering to overarching regulations like PSD2 (Payment Services Directive 2) and GDPR (General Data Protection Regulation).

- Banks like N26 and Bunq operate across multiple EU countries, leveraging the unified regulatory framework for expansion.

North America:

United States

- The US regulatory landscape for virtual banks involves compliance with federal and state regulations, resulting in a fragmented environment.

- The Office of the Comptroller of the Currency (OCC) offers specialized charters like the Special Purpose National Bank Charter for fintech companies, aiming to streamline regulations for digital banks.

Middle East

Middle East has also witnessed developments in digital banking and the establishment of regulatory frameworks for virtual banks.

United Arab Emirates (UAE)

The UAE, particularly Dubai, has been at the forefront of fostering innovation in financial services, including digital banking. The Dubai International Financial Centre (DIFC) has introduced regulations and frameworks conducive to fintech and digital banking initiatives. The DIFC has its own regulatory authority, the Dubai Financial Services Authority (DFSA), which has been instrumental in enabling fintech firms, including virtual banks, to operate within the DIFC.

Regulatory Initiatives:

- Innovation Testing License (ITL): The DFSA introduced the ITL, allowing fintech firms, including digital banks, to test innovative products and services within a controlled environment before obtaining a full operational license.

- Fintech Hive at DIFC: This initiative supports fintech startups, including digital banks, by providing them with mentorship, networking opportunities, and access to the DIFC ecosystem.

Saudi Arabia

Saudi Arabia, with its Vision 2030 aimed at diversifying the economy, has recognized the importance of digital transformation in financial services. The Saudi Arabian Monetary Authority (SAMA) has taken steps to encourage digital banking initiatives and fintech innovation.

Regulatory Measures:

- Fintech Regulatory Sandbox: SAMA has introduced a regulatory sandbox allowing fintech firms, including virtual banks, to test their products and services in a controlled environment while ensuring compliance with regulations.

- Fintech Licensing Framework: SAMA has been working on establishing a licensing framework tailored for fintech firms, creating opportunities for digital banks to operate within Saudi Arabia.

Global Leaders

For more detail in regulating the new era of banking we can look deeper into the regulatory approaches and specific regulations introduced by the Monetary Authority of Singapore (MAS) and the Financial Conduct Authority (FCA) in Singapore and the UK, respectively, for neobanks and virtual banks:

Monetary Authority of Singapore (MAS):

1. Digital Banking License:

- Approach: MAS introduced a specific licensing regime for digital banks, distinct from traditional banking licenses. This approach aims to encourage new entrants, including non-bank players, to participate in the digital banking space.

- Regulatory Pillars:

- Stringent Criteria: MAS sets strict eligibility criteria, including minimum paid-up capital, track record, and the ability to meet ongoing regulatory requirements.
- Risk Management: Emphasis on robust risk management practices, especially in areas like cybersecurity and operational risks.
- Innovation Focus: Encourages innovation in financial services to enhance customer experience.

2. Different Types of Licenses:

- Approach: MAS issues two types of digital bank licenses – Full Bank License and Wholesale Bank License. These licenses are designed to cater to different business models and customer segments.
- Regulatory Pillars:
 - Differentiated Licensing: Tailored licenses for different business models, ensuring a diverse range of digital banking services catering to various needs.
 - Market Segmentation: Facilitates the entry of digital banks targeting retail customers (Full Bank License) and those focusing on specific segments like SMEs (Wholesale Bank License).

3. Regulatory Flexibility:

- Approach: MAS provides a degree of regulatory flexibility, allowing digital banks to adapt to changing market conditions.
- Regulatory Pillars:
 - Adaptability: Recognizes the need for regulatory flexibility to allow for innovation and adaptation in a rapidly evolving digital landscape.

Financial Conduct Authority (FCA) – United Kingdom:

1. Regulatory Sandbox:

– Approach: FCA’s regulatory sandbox allows fintech firms, including neo banks, to test innovative products and services in a controlled environment. It facilitates experimentation while ensuring compliance with regulatory standards.

– Regulatory Pillars:

– Testing Environment: Provides a safe space for innovators to test ideas without full regulatory authorization.

– Gradual Introduction: Allows for a gradual introduction of services, ensuring compliance and risk mitigation.

2. Open Banking Initiatives:

– Approach: FCA actively supports and regulates open banking initiatives, promoting data sharing and interoperability among financial institutions.

– Regulatory Pillars:

– Data Sharing Standards: Sets standards for secure and standardized data sharing, fostering competition and innovation.

– Consumer Empowerment: Aims to empower consumers by giving them control over their financial data, promoting competition among service providers.

3. Consumer Protection Focus:

– Approach: FCA places a strong emphasis on consumer protection, ensuring that new financial products and services meet necessary standards before reaching consumers.

- Regulatory Pillars:

- Robust Compliance: Strives for robust compliance and consumer safeguards in the design and delivery of financial products.

Similarities:

- Innovation and Competition: Both MAS and FCA frameworks prioritize fostering innovation and healthy competition within the financial sector.

- Consumer-Centric Approach: Both aim to protect consumer interests through stringent compliance measures and clear guidelines.

Differences:

- Licensing Approach: MAS introduced a specific Digital Banking License, while the FCA's approach involves a regulatory sandbox for testing innovations.

- Market Size and Scope: Singapore's framework caters to a smaller market but emphasizes global competitiveness, while the FCA oversees a larger market with a broader international impact.

- Focus Areas: While both emphasize innovation and consumer protection, MAS places more explicit emphasis on risk management and operational readiness, while the FCA focuses on fostering open banking initiatives and testing innovations within its sandbox.

These approaches and regulatory pillars underscore the commitment of MAS and FCA to balancing innovation, market competitiveness, and consumer protection within the digital banking space.

Challenges Faced:

Establishing a virtual bank poses multifaceted challenges. Regulatory compliance demands substantial capital investments and adherence to stringent cybersecurity standards. Building consumer trust without physical touchpoints remains a hurdle, necessitating innovative strategies for customer acquisition and retention. Additionally, competition from established banks and fintech disruptors intensifies the market landscape, necessitating differentiation and agility.

The main challenges in regulatory compliance can be considered as follows:

- **Capital Requirements:** Meeting minimum capital thresholds can be demanding for new entrants, necessitating substantial investments.

- **Cybersecurity Standards:** Complying with stringent cybersecurity protocols to safeguard customer data and transactions poses a challenge for virtual banks.

- **Regulatory Adaptation:** Navigating and adhering to evolving regulations amid rapid technological advancements requires agility and continuous compliance efforts.

Virtual banks must navigate these diverse regulatory landscapes, balancing innovation and compliance to establish themselves as credible and secure financial institutions.

Neo banks heavily lean on innovative technologies like AI, machine learning, blockchain, and API platforms. The application of AI and machine learning is visible in risk assessments, fraud detection, customer service, and personalizing customer experiences. Blockchain, on the other hand, ensures foolproof security for transactions (Crosman, 2015)

Conclusion:

The evolution of virtual banks signifies a pivotal transformation in the banking industry, epitomizing the fusion of technology and finance. While poised for exponential growth, these entities face regulatory, technological, and competitive challenges that necessitate adaptive strategies and innovation. The future of banking, undoubtedly, rests in the hands of these trailblazing digital institutions.

Compared to traditional banks, neo banks provide simpler and quicker banking solutions. The absence of physical structures means reduced operational costs, which allows these banks to offer competitive interest rates. However, neo banks share a common burden of trust and belief with traditional banks, with the former needing to work more on building trust due to their virtual-only structure. Simultaneously, they lack the personal touch and face-to-face interactions provided by classic banks (Kahn, 2016).

The concept of neo banks weaving technology and banking services together holds the promise of a new era in finance. They bring forth an agile, efficient, and innovative platform capable of tailoring services to individual needs. However, the challenge remains in building trust, stricter regulatory practices, and competition with firmly rooted traditional banking institutions.

The Iraqi Landscape

In the inception of transitioning to democracy, a new law for the Central Bank of Iraq was issued under Legislation No. 56 of 2004 by the Coalition Authority, aiming to preserve a stable financial system operating under fair competition, promoting sustainable development, and achieving employment opportunities and prosperity for the Iraqi people, as stated in Article 3 of the law. This law also empowered the Central Bank to regulate banks, issue licenses, and supervise them in

Article 4/1/ط, and to take appropriate measures in risk management and preventing misuse of the financial system. However, most of the regulatory details for banks, companies, and payment systems were specified in Articles 39 to 42, which mandated the bank to “develop new payment methods” and “Design a plan to develop and periodically adjust the **national payment system** in Iraq.”

The Banking Law, was rewritten and issued under Coalition Authority legislative decree No. 94 of 2004. In its articles, this law focused on registration, licensing, and supervision mechanisms for banks, granting the Central Bank of Iraq exclusive authority over them (with exceptions for security oversight, judicial inspection, and information exchange granted for specific cases) in supervising banking operations and transactions, inspecting records, which the law encouraged to be electronic and employing latest technologies (Article 38). The law also gave “equal legal effect to these copies as to the original” and authorized the bank to issue policies and regulations specifying requirements for such electronic systems. This law mandated the presence of a central branch for the bank, implicitly defining its working hours in Article 34, but it did not insist on the mandatory physical branches despite numerous references to authorized bank branches.

The Anti-Money Laundering and Countering Terrorism Financing Law No. 39 of 2015 was issued to monitor the use of the financial system and other possible assets for causing harm to state security, encompassing due diligence procedures for banking operations and money transfers, and again encouraging the use of technology in banking operations for ease of review and data analysis for legal purposes. However, electronic procedures and the use of technologies to complete procedures outlined in this law did not mature, despite the presence of offices in every bank and financial institution and the establishment of an Anti-Money Laundering Council chaired by the Central Bank Governor under this

law. There is also a provision implicitly referring to Ghost/fake banks as banks that do not have a physical presence on the ground and could potentially include virtual banks operating online.

The journey of digital payment on a wide scale began with a partnership between the Rafidain and Rasheed banks and the International Smart Card Company, which innovatively utilized fingerprints instead of a numerical code on its cards. The first cards were issued in 2009 to retirees in Iraq and used a point of cash method as tellers rather than ATMs, which were not feasible in Iraq at that time before the issuance of the first payment system under the laws mentioned above.

The Electronic Money Payment Services System No. 3 of 2014 was issued, regulating the registration of digital payment companies, organizing their work and their agents, and specifying the license duration to only five years. However, the system did not succeed in driving progress forward since its issuance, forcing the government and the bank to issue many circulars and instructions later in the form of newsletters and official letters to operators, banks, and the public, which further complicated the scene. The current government joined the fray and formed several committees to avoid the problems facing electronic payment systems, especially with many banks falling behind, especially governmental ones, in adopting core banking systems. Many decisions were made by the Council of Ministers to set payment ceilings, mechanisms, facilities, and incentives to spread the culture of electronic payment, but the results are still not up to the ambition due to many administrative, regulatory, and tax-related problems.

On the technical side of payment operations, the Central Bank initiated the development of several systems dedicated to settlements and electronic money exchange to facilitate the work of banks and companies in electronic payments, including:

- Real Time Gross Settlement System
- Electronic Bond Clearing System
- Internal Clearance System
- Central Securities Depository System
- Infrastructure for Retail Payment System

The bank also worked with a consultancy body and issued instructions regarding the governance of electronic systems and protection of information regarding the financial and banking infrastructure, monitoring compliance and auditing operations based on them, enhancing the robustness of the systems used, information security governance, and electronic services to be more secure and trustworthy for the public to rely on these systems.

Not only did the legislation and regulations mentioned above not prevent the establishment of new/virtual banks or purely online banks, but some electronic payment service providers began to act similarly to such banks. “First Iraqi Bank” was licensed as the first bank to rely on the internet and the World Wide Web as its primary working environment, despite having offices in Erbil and Baghdad.

Recommendations:

The banking environment in Iraq requires diligent and continuous efforts to take on the responsibility of financing and supporting real development in Iraq, especially infrastructure projects, improving the business environment, and revitalizing credit operations to enhance the lives of citizens and traders alike. Therefore, based on this study’s findings and understanding of this vital and important sector in Iraq and expanding financial inclusion, we propose some steps:

- Reviewing Payment Regulation No. 3 to consolidate all subsequently issued directives to be clearer and more stable to encourage investors, operators, and users to transition to electronic payment.
- Encouraging banks and pushing traditional banks to complete their banking systems to increase integration between them and payment systems.
- Reducing costs and complexities and simplifying procedures for operators and users of systems, especially simplifying procedures for registering traders and users known as “Know Your Customer” (KYC) procedures and operating a central e-KYC system specifically for them.
- Building an automated audit and analysis system for electronic payments to reduce the complexities of procedures related to anti-money laundering.
- Reducing fees for using the national switch and services provided by the central bank, even temporarily, as an incentive mechanism for traders and system operators.
- Building a pilot/test environment similar to those mentioned in countries to encourage innovation and creativity in building new services.

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Note that the papers deal with areas such as the role of neo banks in financial inclusion efforts, regulatory challenges, competitive responses from traditional banks, and new frontiers in Fintech, among others.